REMARKS

In the Office Action dated February 11, 2004, pending Claims 1-30 were examined and rejected. In response, no claims are amended, no claims are cancelled and no claims are added. Applicant reserves the right to prosecute the former claims in a divisional or continuation application. Applicant respectfully requests reconsideration of pending Claims 1-30 in view of at least the following remarks.

I.   Claims Rejected Under 35 U.S.C. §103

The Examiner has rejected Claims 1, 2, 10, 16, 22 and 26 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,742,788 to Priem et al. ("Priem1") in view of U.S. Patent No. 5,008,828 to Kelleher et al. ("Kelleher"). Applicant respectfully traverses this rejection.

To establish a *prima facie* case of obviousness, the following criteria must be met: (1) there must be some suggestion or motivation to modify the reference or combine the reference teachings, (2) there must be a reasonable expectation of success, and (3) the prior art references must teach or suggest all the claim limitations. (MPEP §2142) For the reasons provided below, the Examiner has failed to establish a *prima facie* case of obviousness in view of the references of record.

Applicant submits that independent Claim 1 includes the following feature, which is neither nor suggested by either Priem1 or the references of record:

> a controller to simultaneously copy updated data from the first frame buffer to both the second frame buffer and to the display monitor when the updated data is needed to refresh the display monitor. (Emphasis added.)

In contrast, the system taught by Priem1:

> renders new data into an invisible frame buffer array of the array 42 from which data is never scanned to the display 48. (*See* col. 11, lines 5-9.) (Emphasis added.)

Furthermore, Priem1 also indicates:

> once new data has been written to the first (invisible frame buffer) portion 43 of the array 42, the data therein may be transferred to the second (visible frame buffer) portion 44 from which information may be scanned to the display. (*See* col. 11, lines 21-25.)

Hence, Priem1 specifically prohibits the copying of data from the invisible frame buffer 43 to the display; namely, data is only scanned from visible frame buffer 44 to the display. Conversely, Claim 1 describes a system wherein data refresh is performed with the contents of a second frame buffer. However, when data is updated within a first frame buffer, the controller simultaneously copies updated data from the first frame buffer to both the second frame buffer and the display monitor as required by Claim 1.

Applicant submits that the invisible frame buffer 43 of Priem1, from which data is never scanned to the display, prohibits the Examiner from establishing a teaching or suggestion within Priem1 to the aforementioned controller, as required by Claim 1. As a result the Examiner cites Kelleher, which according to the Examiner teaches simultaneously copying updated data from the first frame buffer (first frame buffer 43) to both the second frame buffer (second frame buffer 44) and to the display monitor when the updated data is needed to refresh the display monitor.

According to the Examiner, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the double frame buffer operations, as taught by Priem1 with the feature "where updated goes to the second frame buffer as well as to the display monitor" as taught by Kelleher because it permits a graphic system to more rapidly process information used to generate graphics images. (*See* Office Action mailed 02/11/04, pg. 3, ¶1.) Applicant respectfully disagrees with the Examiner's contention.

According to the Examiner, the above features are taught at col. 5, lines 27-37 of Kelleher. However, after careful review of the cited passage, as well as the entire text of Kelleher, Applicant must respectfully disagree with the Examiner's contention. As described within Kelleher:

> The process of updating the contents of the frame buffer 90 involves first updating the contents of the double buffer and then copying the contents of the double buffer into the frame buffer 90. (*See* col. 5, lines 22-26.)
>
> In order to produce an image on the display screen, stored pixel color information is read from the frame buffer 90 and is provided to the video digital-to-analog converter (DAC) 43. The DAC 43 converts these digital values into analog signal values used by graphics display 47 to produce an image on the screen 48. (col. 5, lines 13-18.)

As further described within Kelleher:

> In an alternative embodiment (not shown), for example, instead of copying the contents of a double buffer into a frame buffer after the contents of such a double buffer have been updated, outputs from such a double buffer and such a frame buffer can be multiplexed (or switched) such that the roles of the two buffers are reversed. In that case, the most recently updated one of the two buffers is coupled to provide pixel color information directly to a DAC while the other buffer operates as a double buffer and is updated with new pixel color information. (col. 5, lines 27-37.) (Emphasis added.)

Based on the cited passage above, the most recently updated one of the two buffers is coupled to provide pixel color information directly to a DAC. However, information from the most recently updated one of the two buffers is not provided to the other buffer since the other buffer operates as a double buffer and is updated with new pixel color information and not the updated information within the most recently updated one of the two buffers.

Conversely, the controller of Claim 1 requires updating data from the first frame buffer to both the second frame buffer and the display. Applicant respectfully submits that Kelleher fails to teach such a feature since the non most recently updated buffer operates as a double buffer and is

updated with new pixel color information. Applicant respectfully submits that the new pixel color information referred to refers to pixel color information that is not contained within the most recently updated one of the two buffers. Accordingly, Applicant respectfully submits that the modification of Priem1 in view of Kelleher still fails to teach each of the claim features of Claim 1.

Furthermore, Applicant respectfully submits that one skilled in the art would not modify Priem1 in view of Kelleher as suggested by the Examiner since Priem1 specifically teaches away from such modification; namely, modification of Priem1, as proposed by the Examiner, would require scanning of data from invisible frame buffer to the display. However, the system taught by Priem1:

> renders new data into an invisible frame buffer array of the array 42 from which data is never scanned to display 48. (*See* col. 11, lines 5-9.) (Emphasis added.)

Accordingly, Applicant respectfully submits that one skilled in the art would not modify the invisible frame buffer to enable scanning of new data from the invisible frame buffer to the display 48, as taught by Kelleher. Accordingly, Applicant submits that modification of Priem1 in view of Kelleher would run contrary to the explicit teachings of Priem1. Accordingly, one of ordinary skill in the art would not be motivated to modify Priem1 in a manner explicitly contrary to Priem1's own teachings.

Therefore, Applicant respectfully submits that a *prima facie* case of obviousness of Claim 1 is not established since the combination of references fails to teach each of the claim features of Claim 1 and there is no teaching or suggestion to combine or modify the references of record. Accordingly, Applicant respectfully submits that Claim 1 is patentable over Priem1, Kelleher and the references of record. Consequently, Applicant respectfully requests that the Examiner reconsider and withdraw the §103(a) rejection of Claim 1.

Regarding Claim 2, Claim 2 depends from Claim 1 and therefore includes the patentable claim features of Claim 1, as described above. Accordingly, Claim 2, based on its dependency from Claim 1, is also is patentable over Priem1, Kelleher and the references of record. Consequently, Applicant respectfully requests that the Examiner reconsider and withdraw the §103(a) rejection of Claim 2.

Regarding Claim 26, Claim 26 includes the following claim feature, which is neither taught nor suggested by either Priem1 or the references of record:

> a controller to coordinate refresh of the display monitor using data stored in the second frame buffer and data updated within the first frame buffer, wherein the controller to simultaneously copy updated data from the first frame buffer memory to both the second frame buffer memory and the display monitor when the updated data is needed to refresh the display monitor. (Emphasis added.)

Conversely, Priem1 strictly prohibits the simultaneous scanning of data from invisible frame buffer 43 to both the visible frame buffer 44 and to the display monitor; namely, Priem1 is strictly limited to copying of data from the visible frame buffer to the display since data in the invisible frame buffer 43 is never written to the display. (*See* col. 11, lines 6-8.)

Furthermore, as indicated above, the Examiner's citing of Kelleher fails to teach the copying of updated data from the first frame buffer memory to both the second frame buffer memory and the display monitor, as required by Claim 26. Namely, in the alternative embodiment described with reference to col. 5, lines 27-37 of Kelleher, updated data from the most recently updated data from the most recently updated buffer is not simultaneously updated to the non most recently updated buffer, which operates as the double buffer, as taught by Kelleher to receive new pixel color information. As indicated above, Applicant respectfully submits that the new pixel color information does not include the pixel color information contained within the most recently updated buffer. Accordingly, Applicant respectfully submits that the combination of Priem1 in view of Kelleher fails to teach each of the claim features of Claim 26.

Moreover, as indicated above with reference to Claim 1, Priem1 is strictly limited to copying of data from the visible frame buffer to the display since data in the invisible frame buffer is never written to the display. Accordingly, modification of Priem1 in view of Kelleher would require writing of data from invisible frame buffer 43 to the display, which is strictly prohibited by Priem1. Hence, Applicant submits that modification of Priem1 in view of Kelleher runs contrary to the explicit teachings of Priem1. Accordingly, one of ordinary skill in the art would not be motivated to modify Priem1 in a manner explicitly contrary to Priem1's own teachings.

Consequently, Applicant respectfully submits that the Examiner fails to establish a *prima facie* rejection of Claim 26 as obvious over Priem1 in view of Kelleher since the cited references fail to teach each of the claim features of Claim 26 and there is no teaching or suggestion to combine the reference teachings. Accordingly, Claim 26 is patentable over Priem1, Kelleher and the references of record. Therefore, Applicant respectfully requests that the Examiner reconsider and withdraw the §103(a) rejection of Claim 26.

The Examiner has rejected Claims 3, 11 and 27 under 35 U.S.C. §103(a) as being unpatentable over Priem1 in view of Kelleher as applied to Claim 1 and further in view of U.S. Patent No. 5,724,608 to Tohara ("Tohara") and further in view of U.S. Patent No. 5,543,824 to Priem et al. ("Priem2"). Applicant respectfully traverses this rejection.

Regarding Claim 3, Claim 3 depends from independent Claim 1 and therefore includes the patentable claim features as described above with reference to Claim 1. Applicant submits that the teachings of both Tohara as well as Priem2 do not rectify the deficiencies attributed to the combination of Priem1 in view of Kelleher, which fail to teach or suggest a controller for

simultaneously copying updated data to both the second frame buffer and the display monitor, as required by Claim 1. Therefore, for at least the reasons described above, Claim 3, based on its dependence from Claim 1, is patentable over the references of record. Consequently, Applicant respectfully requests that the Examiner reconsider and withdraw the §103(a) rejection of Claim 3.

Regarding Claim 27, Claim 27 depends from Claim 26, and therefore includes the patentable claim features of Claim 26, as described above. Regarding the Examiner's citing of Tohara, as well as Priem2, Applicant respectfully submits that both Tohara and Priem2 fail to rectify the deficiencies attributed to the combination of Priem1 in view of Kelleher in failing to teach or suggest the simultaneous copying of data from the first frame buffer to both the second frame buffer and to the display monitor, as required by Claim 26.

Accordingly, Claim 26, for at least the reasons described above, is patentable over Priem1, Kelleher, Tohara and Priem2, whether viewed independently or in combination. Therefore, Claim 27, based on its dependency from Claim 26, is also patentable over Priem1, Kelleher, Tohara, Priem2 and the references of record. Consequently, Applicants respectfully request that the Examiner reconsider and withdraw the §103(a) rejection of Claim 27.

The Examiner has rejected Claims 4-6, 12-15, 17-19, 21, 23-25 and 28-30 under 35 U.S.C. §103(a) as being unpatentable over Priem1 in view of Kelleher as applied to Claim 1 and further in view of Tohara and further in view of Priem2 as applied to Claim 3 and further in view of U.S. Patent No. 5,757,364 to Ozawa et al. ("Ozawa"). Applicant respectfully traverses this rejection.

Regarding Claims 4-6, Claims 4-6 depend from Claim 1, and therefore include, the patentable claim features of Claim 1 as described above. Furthermore, the Examiner's citing of Tohara, Priem2, as well as Ozawa, fails to rectify the deficiencies attributed to the combination of Priem in view of Kelleher, which fail to teach or suggest a controller which enables simultaneous copying of updated data from the first frame buffer to both the display monitor and second frame buffer as required by Claim 1.

Conversely, Priem1, as well as Priem2, strictly prohibit the simultaneous scanning of data from both frame buffers to the display. This is directly in contrast to the controller as described with reference to Claim 1, which enables such simultaneous scanning.

Accordingly, for at least the reasons described above, Applicant respectfully submits that Claims 4-6, based on their dependency from Claim 1, are patentable over the references of record. Therefore, Applicant respectfully requests that the Examiner reconsider and withdraw the §103(a) rejection of Claims 4-6.

Regarding Claims 12-14, Claims 12-14 depend from Claim 9, as amended. Claim 9 is amended to include a controller as described above with reference to Claim 1. This feature is

directly in contrast and taught away from by both <u>Priem1</u> and <u>Priem2</u> based on the aforementioned prohibition of <u>Priem1</u> and <u>Priem2</u> against simultaneous scanning of updated data from the first frame buffer to both the second frame buffers and to the display. Accordingly, Claims 12-14, based on their dependency from Claim 9, are patentable over <u>Priem1</u>, <u>Kelleher</u>, <u>Priem2</u>, <u>Tohara</u> and <u>Ozawa</u>, whether viewed independently or in combination. Consequently, Applicant respectfully requests that the Examiner reconsider and withdraw the §103(a) rejection of Claims 12–14.

Regarding Claim 15, Claim 15 includes the following feature, which is neither taught nor suggested by the references of record:

<u>simultaneously copying</u> <u>updated data</u> <u>from</u> the <u>first frame buffer memory</u> to <u>both</u> the <u>second frame buffer memory</u> and <u>to the display monitor</u> when the updated data is needed to refresh the display monitor. (Emphasis added.)

As indicated above, this feature is specifically taught away from in <u>Priem1</u> by <u>Priem1</u>'s prohibition against simultaneous copying or scanning of data from both frame buffers to the display monitor. Accordingly, based on the specific prohibit against dual frame buffer scanning, Applicant submits that Claim 15 is patentable over <u>Priem1</u>, <u>Kelleher</u>, <u>Tohara</u>, <u>Priem2</u> and <u>Ozawa</u>, whether viewed independently or in combination. Consequently, Applicant respectfully requests that the Examiner reconsider and withdraw the §103(a) rejection of Claim 15.

Regarding Claims 17-19, Claims 17-19 depend from Claim 15 and therefore include the patentable claim features of Claim 15 as described above. Accordingly, for at least the reasons described above, Claims 17-19 are patentable over the references of record. Consequently, Applicant respectfully requests that the Examiner reconsider and withdraw the §103(a) rejection of Claims 17-19.

Regarding Claim 21, Claim 21 is amended to include analogous features to Claim 15 as described above in the form of a computer program product. Accordingly, for at least the reasons described above with reference to Claim 15, Applicant respectfully submits that Clam 21 is patentable over the references of record. Consequently, Applicant respectfully requests that the Examiner reconsider and withdraw the §103(a) rejection of Claim 21.

Regarding Claims 23-25, Claims 23-25 depend from Claim 21 and therefore include the patentable claim features of Claim 21 as described above. Consequently, Applicant respectfully submits that Claims 23-25 are patentable over the references of record. Therefore, Applicant respectfully requests that the Examiner reconsider and withdraw the §103(a) rejection of Claims 23–25.

Regarding Claims 28-30, Claims 28-30 depend from Claim 26, and therefore include the patentable claim features of Claim 26, as described above. Regarding the Examiner's citing of <u>Tohara</u>, <u>Priem2</u> and <u>Ozawa</u>, Applicant respectfully submits that the cited references fail to rectify

the deficiencies of the combination of Priem1 in view of Kelleher, which fail to teach or suggest simultaneous copying of updated data from the first frame buffer to both the second frame buffer and the display monitor, as required by Claim 26. Accordingly, Applicant respectfully submits that Claim 26 is patentable over Priem1, Kelleher, Tohara, Priem2 and Ozawa, as well as the references of record, whether viewed independently or in combination. Accordingly, Claims 28-30, based on their dependency from Claim 26, are also patentable over Priem1, Kelleher, Tohara, Priem2, Ozawa and the references of record. Consequently, Applicant respectfully requests that the Examiner reconsider and withdraw the §103(a) rejection of Claims 28-30.

The Examiner has rejected Claims 7-9 and 20 under 35 U.S.C. §103(a) as being unpatentable over Priem1 in view of Kelleher as applied to Claim 1 and further in view of U.S. Patent No. 5,790,138 to Hsu ("Hsu"). Applicant respectfully traverses this rejection.

Regarding Claims 7 and 8, Claims 7 and 8 are dependent from Claim 1 and therefore include the patentable claim features of Claim 1, as described above. Regarding the Examiner's citing of Hsu, Applicant respectfully submits that Hsu fails to rectify the deficiencies attributed to the combination of Priem1 in view of Kelleher, which fails to teach or suggest simultaneous copying of updated data from the first frame buffer to both the second frame buffer and the display, as required by Claim 1.

Accordingly, based on their dependency from Claim 1 and for at least the reasons described above, Applicant respectfully submits that Claims 7 and 8 are patentable over the references of record. Consequently, Applicant respectfully requests that the Examiner reconsider and withdraw the §103(a) rejection of Claims 7 and 8.

Regarding Claim 9, Claim 9 includes a controller feature as described above with reference to Claim 1. As indicated, this controller enables simultaneous copying of updated data from the first frame buffer memory to both the second frame buffer memory and the display in violation of the stated prohibition of Priem1 from prohibiting simultaneous scanning of data from both portions of the buffer array to the display monitor.

Consequently, for at least the reasons described above, Claim 9, as amended, is patentable over the references of record. Therefore, Applicant respectfully requests that the Examiner reconsider and withdraw the §103(a) rejection of Claim 9.

Regarding Claim 20, Claim depends from Claim 15, and therefore includes the patentable claim features of Claim 15, as described above. Regarding the Examiner's citing of Hsu, Applicant respectfully submits that Hsu fails to rectify the deficiencies attributed to the combination of Priem1 in view of Kelleher, which fails to teach or suggest simultaneous copying of updated data from the first frame buffer to both the second frame buffer and the display, as required by

Claim 15. Accordingly, Claim 15 is patentable over <u>Prieml</u>, <u>Kelleher</u>, <u>Hsu</u> and the references of record.

Consequently, Claim 20, based on its dependency from Claim 15, and for at least the reasons described above, is also patentable over <u>Prieml</u>, <u>Kelleher</u>, <u>Hsu</u> and the references of record. Therefore, Applicant respectfully requests that the Examiner reconsider and withdraw the §103(a) rejection of Claim 20.

<u>CONCLUSION</u>

In view of the foregoing, it is believed that all claims now pending (1) are in proper form, (2) are neither obvious nor anticipated by the relied upon art of record, and (3) are in condition for allowance. A Notice of Allowance is earnestly solicited at the earliest possible date. If the Examiner believes that a telephone conference would be useful in moving the application forward to allowance, the Examiner is encouraged to contact the undersigned at (310) 207-3800.

If necessary, the Commissioner is hereby authorized in this, concurrent and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2666 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17, particularly, extension of time fees.
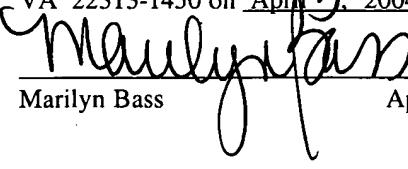
Respectfully submitted,

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Dated: April 5, 2004

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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail with sufficient postage in an envelope addressed to: Mail Stop Non-Fee Amendment, Commissioner for Patents, P.O. 1450, Alexandria, VA 22313-1450 on April 5, 2004.

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Marilyn Bass   April 5, 2004